DR. ROBERT F. KARNEI, JR.
ARMED FORCES INSTITUTE OF PATHOLOGY
ORAL HISTORY PROGRAM

INTERVIEWER: Charles Stuart Kennedy
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Q: Dr. Karnei, I wonder if you could tell me something about your background, when and where you grew up and were educated as a young lad.

DR. KARNEI: Well, I was born in San Antonio, Texas, and grew up in Houston. My family moved to Houston when I was about a year and a half old. I went through grade school, junior high, and senior high in Houston, and then went to Rice Institute, when it was still named the Institute; now the name has been changed to Rice University. After college, I went to the University of Texas Medical School in Galveston. During the time I was in medical school, I got connected with the Navy through their medical school program, did a clerkship between my sophomore and junior year, and then was in the senior medical program during my senior year. Following that, I did an internship at the Naval Hospital Jacksonville, Florida. And then spent a year with the Marines on Okinawa as a battalion surgeon. Following that, I came to the Naval Medical School at the National Naval Medical Center for my residency in pathology, both anatomic and clinical pathology. After the residency, I was sent back to Jacksonville as chief of lab service, which really put me onto an administrative track. And after being there for four years, I came to the Armed Forces Institute of Pathology for a two-year fellowship.

Q: This was when?

DR. KARNEI: Let's see, I was in the Naval Hospital, Jacksonville, Florida, from '66 to '70. I went down there in September of '66, and left in July of '70, and came to the AFIP for a fellowship in Gynecologic and Breast Pathology in July of 1970. After about a year in the fellowship, I was called over to the Naval Hospital to help them straighten some things out. They had really gotten into a problem in the area of anatomic pathology. And after designing a new laboratory and so forth over there for anatomic pathology, I went...

Q: This is at Bethesda?

DR. KARNEI: At Bethesda, right. I went over there as Chief Anatomic Pathology in 1972, and stayed there until September of 1980, when I was appointed as the junior Deputy Director of the AFIP. After serving seven years there as Deputy Director, I was appointed director in 1987. At the end of June 1991, I retired from the Navy and, of course, gave up the directorship of the AFIP at the same time.

Q: Well, I'd like to take you way back again. When you were in high school in Houston,

had you thought about being a doctor? Had medical work attracted you at all?

DR. KARNEI: As a matter of fact, I had talked about becoming a doctor back already in the fifth grade, for some reason, I have no idea.

Q: Are there any doctors in your family?

DR. KARNEI: There are no doctors in my family. As a matter of fact, I'm the first Karnei that had ever gone to college, and the only one that's ever gotten an M.D. degree. My parents were from large families: my father was one of eleven children, and my mother was one of sixteen children.

Q: Good heavens!

DR. KARNEI: After I was out of medical school, I went to one of my family reunions, which was the Karnei reunion, and I found a third cousin who was an M.D. But that's the only relative that I'm aware of that is in the medical profession. I now have got some third and fourth cousins that married-in. But out of that entire group of cousins and so forth of direct descendants, as far as I know, I'm the only doctor.

Q: You maybe wanted to be a doctor, but some people want to be firemen, in the fifth grade. Did you sort of point yourself towards taking courses through high school, and by the time you got to college, towards that?

DR. KARNEI: Well, yes, as a matter of fact, in between there I had considered becoming an architect. My Dad was in the building business in Houston, and I thought I would become an architect, because I really didn't know that much about medicine.

But then, during high school, I again started taking classes that would get me into college; I took all of the algebra and the English and the biology and chemistry and physics and Latin and all of the courses that would get me into a fairly decent university, such that I could go on to medical school. I then completed high school and went with a friend of mine to Rice Institute one day. He was going there for an interview, and during the interview, the dean asked me if I would be interested in going to Rice. I had never even thought about Rice, because it was sort of, you might say, the Harvard of the South, if you want to call it that, and I didn't think I'd have a chance of getting in. But he asked my background, and since I was able to speak fairly fluent German at that time...actually, all I could speak was German when I started school...

Q: You came from a German family, sort of a San Antonio New Bronfels, where Admiral Nimitz was brought up.

DR. KARNEI: Well, actually, my father's family came from Goliad, and my mother's family came from the area of LaGrange and Fayetteville, so it's not really out of the San

Antonio area, even though they had migrated to the San Antonio area during the twenties, of course during the Depression in the early thirties. But we still spoke German at home, and English was definitely considered a second language at home.

Q: So this was an added impetus when you came to be considered for Rice.

DR. KARNEI: Right.

Q: How did you find Rice?

DR. KARNEI: It was hard; I thought I had studied hard in high school, until I went to Rice. But the professors were very good. Some of the freshman classes were large classes; the English course and the basic chemistry and so forth were in classes of up to three hundred people. But after that, the largest classes were maybe thirty students. And then, by the senior year, some of the courses I was in only had twelve or thirteen people in them. Rice pretty much has maintained a ratio of something like one professor to every ten or eleven students, so they have a lot of faculty there to take care of the students. And they were all accessible. You had to make appointments to see them, but they always made time available for the students to come in and discuss whatever problems they had.

Q: Were you taking pre-med. there?

DR. KARNEI: Yes, I was in pre-med. And then, towards the end of the sophomore year, Rice decided to eliminate the pre-med. track, and we then had to pick a different major to go into. And I picked biology and graduated from Rice with a B.A. degree in biology, and then went on to medical school.

Q: You went where to medical school?

DR. KARNEI: The University of Texas, in Galveston.

Q: Now there, we were talking beforehand, you met Kenneth Earle, didn't you?

DR. KARNEI: Ken Earle, right. He was a Reserve Navy officer and was the acting dean of the medical school at that time. He gave me my oath of office into the Navy, because I had entered the Navy program at that time.

Q: Right at the very beginning of medical school?

DR. KARNEI: Well, I had to look for outside funding, as my Dad died in November of my sophomore year of medical school. It put sort of a kink into my going to medical school, even though medical school at that time was, shall we say, fairly cheap. My first year, I think it was seventy-five dollars a semester tuition, plus books. The fraternity

house was Phi Rho Sigma, and I think it was about a hundred dollars a month that covered room and board and fraternity fees, plus laundry and all this sort of thing. So it was a lot cheaper then than it is now. Of course, at Rice when you were accepted, it was tuition-free.

One of the reasons that the name was changed is because the original will by William Marsh Rice set up the university for the white students of Houston, Harris County, in the State of Texas, and since they had started accepting students from out of state, and with the Supreme Court ruling in, I guess it was '56, they had to do something about changing that will. And it was then broken, at which time they also changed the name from Rice Institute to Rice University.

Q: What moved you toward the Navy? Was there a choice at the University of Texas at Galveston as far as Navy or Army or Air Force?

DR. KARNEI: Just that some of my friends were Navy oriented, and they asked me to go along one day, and I went with them and found the program acceptable and signed on the dotted line and was accepted.

Q: While you were going through medical school, did pathology come up as other than just a regular course? Did you show an interest in that at that time?

DR. KARNEI: Yes, even in high school, looking at the slides, I had the ability to identify tissues very easily and to see if something was wrong with the tissue. And I think that's what we sort of look for in pathologists, the ability to look at a slide and be able to recognize organs very quickly, and to recognize if they see any abnormality in the normal structures. It's sort of seeing the big picture before going into the minute areas. I sometimes have a feeling that some of the younger pathologists are more into electron microscopy, immunopathology, molecular biology, and so forth, which are all well and good, but they have to be correlated to the old hematoxylin and eosin stain slide. It has to be related back to the basic medicine and the patient.

Q: Did you find that there really was a certain separation between medical students who had a knack for looking at slides and seeing these and others who didn't? Is this something that sort of continues throughout as you observe the...

DR. KARNEI: Oh, yes, I think so. Some people have the ability to look at slides, and others don't. They really could care less what's down the microscope; they're more in tune to talking to patients or looking for disease processes in the patient, whether it be internal medicine or pediatrics or surgery or something in that arena. I had several professors who tried to force me into or wanted me to strongly consider psychiatry, and that definitely was not for me. And as I spent more time in the clinics and on the wards, I found I was spending more time with patients who thought they were sick than who were really sick, and to some extent I felt like I was wasting my time separating those two

groups of people apart. Once I had determined that they were not really physically or physiologically sick, I sort of lost interest in the patient. And so that sort of led me towards pathology, whereby I was going to be dealing with, hopefully, some real physical illness in the patients.

Q: You graduated from Texas when?

DR. KARNEI: In 1960.

Q: Did you go to Okinawa right away?

DR. KARNEI: No, I did a rotating internship at the Naval Hospital, Jacksonville. That was in the days when you did a little bit of everything; it was a good, general, rotating internship, where you did internal medicine and surgery and pediatrics and OB/GYN, etc. We had six interns for a 450-bed hospital, and no residents, so we were on duty basically every other night. The way they had it set up, we were on duty Monday night, Wednesday night, and then Saturday, Sunday, and then Tuesday, Thursday, Friday. So for an entire year you basically, you might say, existed, because you were just so tired from the work. Because if one was sick, there was no backup, and one of the other interns would have to support the other one. And there was no vacation during that year, either.

Q: Since we're doing this from a historical point of view, and this system may at some point go, it sounds like a very good way to get a doctor into the system and that it really tried them. It's a little bit like a fraternity hazing or something. But what about from the patient's point of view? Looking back on it, how do you think it worked?

DR. KARNEI: I think it was a disservice to the patient. Because, even on my "nights off," I would be there until ten, eleven o'clock working the patients up, especially when you were on surgery, because you were in the O.R. [Operating Room] nearly all day long and then the patients were admitted during the day and you had to work all of them up prior to the next day's surgery.

One time, right around Christmastime, we decided we needed some time off, so we, between the six of us, agreed that one group would work four days and three nights straight. And I did it at Christmastime since I was single at that time. The other ones, when they had it, worked at New Year's. And I think on the third night that I had the duty, I did a history and physical on a woman, made the correct diagnosis, but the next morning when I made rounds with the staff man, I couldn't remembered her. I had no idea who she was, even though it was fairly obvious that I had worked her up, because I had written the history and physical on her. And I think that's wrong. I mean, during that year, we also had to write a thesis and make an oral presentation of that thesis to the staff, plus they also gave us a couple of correspondence courses, plus all the reading that we were trying to do on the patients. That to me was a slave-labor year and I would not

recommend that for anybody.

I think the rotating internship, for someone who hasn't decided what specialty they're going into, is probably pretty good, and it's probably good for pathologists, so they have some idea of what the clinicians are dealing with in regards to the patients, especially if they don't have much patient contact during medical school. And that is changing over the years.

I remember during my internship at the Naval Hospital, Jacksonville, we had an individual from Harvard, and he was there between his junior and senior year and had just started doing histories and physicals at that time and did not know how to do any of the things like drawing blood or doing venous pressures or spinal taps or anything, and we had to help him along to do those sorts of things as he was not well-versed in direct patient care. Of course, once I got the history and physical done on the patient, he could quote me 50 diseases I should think about; he had a real fund of knowledge in regards to differential diagnosis, but hadn't really developed any kind of doctor-patient type relationship in regards to doing a history and physical and some of the preliminary tests that needed to be done.

Q: With pathologists, I'm sure this becomes a problem later on, that there is this distance between the pathologist and the patient.

DR. KARNEI: I think that's starting to change. I think it depends on the pathologist to some extent. If the pathologist wants to work like some people have the concept of a pathologist who works in this basement room, way down in the bowels of the building, and just wants to have slides shuffled in to him and out, I think that's one aspect. But I think more pathologists are getting more clinically involved. I, even during my residency, would get up and go out on the wards and do my own history and physical, because the information I had received would not meet what I was seeing on the slides. And during the time I was head of anatomic pathology and basically running the residency training program at the Navy Hospital (Bethesda), I made the residents do the same sort of thing. And I had meetings with all of the various specialties. We had a weekly meeting with the OB/GYN people, and we would present cases to them or give them lectures on the various pathologic entities. That actually started during my residency. I sort of gravitated toward GYN and breast pathology because during my first year of residency the staff man that was sort of running the program...

Q: This was what period, so we'll have the dates?

DR. KARNEI: Well, this was started in 1962, when I started working with the gynecologists as a resident, and maintained that interest in GYN pathology, and then added breast to that when I came to the AFIP, because breast pathology was part of the Gynecologic Department, it was the Breast and GYN Department.

Q: Your first time coming to the AFIP was from 1970 to '72, but before that, had you had

any dealings with the AFIP?

DR. KARNEI: Well, of course, during the year I was on Okinawa, from '61 to '62, I ordered the complete set of AFIP fascicles of the Atlas of Tumor Pathology, and read those through during the time I was over there. And then, when I started my residency, after basically taking over the GYN Path. conferences after about six months into my residency...

Q: This was where?

DR. KARNEI: At the Navy Hospital here in Bethesda. That would have been early '63 when I started coming over here and showing cases to Dr. Herb Taylor and Dr. Jason Norris, who were in the department at that time, so that when I presented it to the GYN people I had the right diagnosis. So I had developed a working relationship with that department even as early as '63.

Q: Was that unusual? Because I have gathered, in some of the interviews I've done, that really the Navy Hospital at Bethesda, and the Navy itself, has sort of stood somewhat independent. The AFIP, although it's an Armed Forces Institute of Pathology, one has the feeling that it stems from the old Army and then the Air Force branching out, that has been sort of the core, and the Navy has always done things its own way.

DR. KARNEI: Well, that's true to a certain extent. I mean, there's a right way and a wrong way and the Navy way. But the Navy has, to a fair extent, been that way. However, I found the time over here very stimulating. When I left after my fellowship and went back to the Navy, I started sending more cases over here from the Navy Hospital. Arranged for all of the residents to spend a minimum of three months in some specialized study in anatomic pathology. And the vast majority of them spent the entire three months here at the AFIP, either one month in three different departments, or all three months in one department, or two months in one department and another month in another department. They, I think, really benefitted from that. And I think the hospital benefitted. It was usually towards the end of their second year of residency when they would first have an opportunity to do this, and in that short period of time they would develop enough expertise to where I would occasionally use them as consultants; you know, had they seen something like this during the time they were at the AFIP?

One thing about the AFIP is that you see a lot of unusual cases in a very short period of time. An illustration is when I did my fellowship here, I was on sign-outs one week, in which I was handling all of the rush cases that were coming in, and I was calling this contributor and telling him that he had a case of tubular, or well-differentiated, adenocarcinoma of the breast. And, of course, you have to think back, the original paper on this came out of the AFIP, I think, in '68 or '69, somewhere in that timeframe. So the people started sending in a lot of cases that they thought may be this. Because the big differential between this is a benign entity known as sclerosing adenoses. I was talking to

this one contributor, and he said, "Are you sure that's the right diagnosis?"

And I said, "Yes, I'm sure that that's the right diagnosis."

And he said, "You know, this is the first one I have recognized; I may have seen others, but didn't recognize it. How often do you get to see it?"

And I said, "Well, I hate to tell you this, but you're the sixth call this week and I've got to make another one today." And it was only Tuesday.

Q: Well, here is something that I haven't run across in other interviews. And that is, when the AFIP would produce a paper, this would then inspire people to send in things which they thought might correlate to that, which then would reinforce your findings and help you to build up a bigger archive of possible and non-possible, both of which are very valuable for making your judgments. So that the paper production is really quite important.

DR. KARNEI: Oh, it is, it's very important and something that we had to push a little bit more when I came back here as deputy director. It causes people to send in a lot of cases that are exactly what was reported, but then you start seeing variations on these that generate more papers, because people are seeing some things that look like it but may not be exactly the same thing, and it may be a totally different entity and have a different clinical pathologic correlation aspect to it. I mean, it may be worse, it may be better than the entity that has been described. So, yes, the papers always generated an influx of cases that built up the archives here at the Institute.

Q: What about a hospital such as the Naval one at Bethesda, would things be sent to you there? I always think these two institutions represent the top of the Washington medical establishment. Was Bethesda developing a reservoir of specimens?

DR. KARNEI: Yes, the Naval Hospital has archives that go back to the early forties, and a lot of that material really has not been tapped. When we were starting to look at moving into the new hospital, we had to eliminate some of the archives that we had, and I started systematically going through a lot of that material and throwing out material that was of no research value. I mean, hernia sacs and this sort of thing have no research value, but all of the tumors and the autopsies of unusual type cases I started sending to the Institute. So I caused sort of a large influx of cases to the Institute during that time.

A lot of former residents would send cases to the Navy Hospital for consultation. The AFIP had to some extent developed a reputation of being very slow in responding to the contributors, such that my former residents would send me a case, knowing that I would get an answer back to them right away, and if I didn't know what it was, I would get in the car, come over here and sit across the microscope with one of the AFIP staff, get an answer, and then call them right back again within a couple of days. Whereas if they sent it to the AFIP, depending on what department it went to, they might receive an answer within a week or it may be never. As a matter of fact, when I came here in '80, there were a lot of cases that were held up in Accessions as long as three weeks before

they ever got out to the departments. Which has been totally changed over the years, obviously. The contributors out there had said they liked the AFIP diagnosis, but it was too late: they had either gotten an answer from somebody else, or the patient had, in some cases, died from the disease process before the answer ever came back. So that was one of my, I'd say, pet projects was to expedite the handling of consultation cases when I got there.

Q: You first came to the AFIP from '70 to '72. Could you describe kind of the spirit of the place. You came in as a fellow; what were you doing?

DR. KARNEI: We had handled all of the consultations that were coming in at that time, and also did some research projects and presented that material at the annual lectures that the AFIP put on. Besides, I had started giving lectures and being a consultant to the Naval Hospital over in Bethesda during that time also, because of the problems they were having.

I was never a big researcher. As a matter of fact, I did several research projects, and once I had learned what I wanted out of it, I lost interest in the project and wasn't really interested in writing it up. Some of those I finally wrote up, afterwards, with some other people who followed me here.

I always felt that service work was the most important aspect, to get the answers out to the contributors out there, and since we had a very small staff at that time and the number of cases was quite significant, I spent most of my time doing the cases. And the other person who was here with me at that time, Dr. Bill Hart, did a lot of the research. I mean, he did a lot of the consultations, too, but his interest was mainly in the research areas.

Q: What area were you working in then?

DR. KARNEI: GYN and Breast Pathology.

Q: This was in the seventies; the military did not have as many, obviously, dependents and all, but basically was still pretty much a male organization. Did you find that the GYN and breast side was considered sort of secondary to, you might say, male-oriented diseases?

DR. KARNEI: No, the GYN and Breast Department has always been one of the busiest departments here at the Institute. I guess the only one that ever really exceeded it was the Dermatopathology Department. When I was here the first time, it was the Dermatopathology and Gastrointestinal Departments, and they were both under Dr. Helwig, who was an expert in both areas. But next to that was the Gynecologic and Breast Department. The Navy had a lot of dependents and therefore we received a lot of material, but also the civilians sent in numerous cases. Some of the world's authorities had been chairmen of the department and other staff members of the department went to

other places and made a name for themselves. They've also always had a high rate of publications from that department. They have always been patient oriented, such that they were describing new entities that really had an impact on patient care.

I think one of the greatest things I did when I went back to the Naval Hospital in '72 was to get them to stop doing the radical mastectomy, the classical Halstead radical mastectomy, and get them to start doing modified radical mastectomies at that time. And, of course, since that time we've gone even to lesser types of surgery. Which I'm not sure that isn't going to come to bite us, with the radiation therapy that's being given, but we'll see if that plays out. But I think that studies have pretty well shown that unless the tumor is invading the pectoralis muscle or the facia of it, there's no reason to take the muscle out at the time, and this prevented a lot of disfiguration and a lot of problems that women were having, developing lymphedema of the arm and poor circulation in the arm.

Q: You're talking about the 1970 period.

DR. KARNEI: Seventy, yes.

You know, it's sort of interesting, when I was named deputy director and then subsequently director of the Institute, my wife made a comment one day that she knew, even when I was a resident, that eventually I would end up doing this.

And I said, "Well, what do you mean?

She said, "When you came home at night during the residency, you really felt like the AFIP was really the place to be, it was really the cutting edge of everything; you were excited when you went over there. And then when you went back in '70, you were excited, but not as much. And then over the next few years, as you felt like the Institute was starting to slide and they were not at the forefront, you felt like something needed to be done. Now you have your chance."

Q: In this first period you went, often this period for someone is traumatic in that you get a glimpse of it and you see both the good and the bad side. In the later period as the administrator, were there any things that you looked at and said, gee, if I only could do something, I'd like to do something about this?

DR. KARNEI: Yes, and I think we did that in 1980 when I came here as the junior deputy. At the same time, there was an Army deputy director that came here, Col. Tom Zuck, and we felt that the senior staff were starting to stifle the place. This may get me into trouble, but anyway...

Q: Well, please, let's get into trouble.

DR. KARNEI: A lot of them were the world's authority in their field. I mean, they were well recognized. They were still doing some research, but it was no longer on the cutting edge of pathology. When I went around when I first came here, the big thing that everybody said that we should be into was immunopathology, doing all of the

immunostains to identify the various tumors and so forth, and that the AFIP was not leading in this field. As a matter of fact, it was only done on a limited basis up in the Genito-Urinary Department with Dr. Mostofi and Dr. Sesterhenn. He would do some work for some of the other departments, but it was sort of limited. And so it was decided that we really needed to have a general immunopathology laboratory here for the Institute. And I decided, well, we needed to set this up. And what I ran into was that you can't have any of my space; you can't have any of my people. And I said, "Wait a minute. You don't own any people; you don't own any space. The only person who's responsible for both of those is the director." And so what I did was look around and found a couple of labs that were pretty modern but were rarely used. So I talked to the director, Dr. Cowan, at the time, and said I want these two labs, and he said all right, and then I confiscated the two labs. He insisted that the veterinary pathologist, who had a Ph.D. in immunology, be made chairman of that department...or chief of that department, I can't remember where we stuck it in the system. And then the next two Navy techs that were assigned to the Institute, since I was in charge of all the Navy people, I assigned to this department; I didn't assign them to the departments that they would have been assigned according to the TDA.

And that's the way we started the general immunopathology laboratory here at the Institute. And, of course, it has grown by leaps and bounds. I mean, the curve is almost spinning back on itself with the amount of work that's now done in that laboratory.

Q: Well, tell me, in this early '70 period when you were here, first it was Captain Smith and then it was Colonel Morrissey who was in charge. Morrissey left, I guess, after you had gone back to Bethesda. But Morrissey left in what appears to be somewhat of a...the term may be incorrect, but a huff, saying that he was disappointed in the Institute. He felt some of the things you were saying, that it wasn't responding, it was too, almost, chief-ridden, each bureau was sort of its own little kingdom. With some of the younger doctors there, would you sit around coffee and talk about how we're going to get this thing moving or something?

DR. KARNEI: Well, we did that in the GYN-Breast Department. It turned out that I was in one of the departments that was being very responsive: as the cases came in, we got them out. One problem we had was getting the sections cut. We couldn't get the cases turned around within the laboratories as fast as we wanted to have it done.

Q: The sections cut, you mean to make slices of...

DR. KARNEI: Yes, that's additional sections on the blocks that were submitted with the case. The vast problem that the pathologist had out in the field at that time, and still some of them have it, is the quality of the material that they have to look at. The AFIP laboratories do an excellent job. Occasionally they have a down day, but, overall, the quality of the sections that are produced here at the Institute far exceeds what's out there

in the general community hospital. I would say some of the teaching centers and some of the community hospitals now are on the same level as the AFIP material, but there are a significant number of hospitals out there that don't have that. And what we mainly needed on a lot of the cases that were sent in was a decent section. And once we had a decent section, we could make the diagnosis very easily. Some of the cases were unusual, that's true, but we were still able to make the diagnosis easily because we had seen 50 of these in the last month or so. So, I mean, it was easy to make that diagnosis.

So what we worked on, the Dental and Oral Pathology Department had techs assigned to them that were pretty good quality. They were not that busy, so we got them to start cutting our sections. And instead of getting our cases out in usually a week or a little bit more, we starting getting them out in a couple of days, because we were able to turn the cases around in the laboratories and get the results back out to the clinicians.

I did not get into the other departments at that time. I had heard complaints about those kinds of problems from the time I was at the Naval Hospital, obviously, and I found out when I got here that that had to be changed also. Dr. Zuck and I actually referred to the senior staff as "barons" with their fiefdoms. They basically worked on their own. They didn't answer to the director. I think they gave him sort of lip service, but basically they did what they wanted to do; what was good for them was good for the Institute. I always thought what was good for the Institute was good for them. But that's the battleground that I sort of went into.

We had during that time gotten a junior staff that wanted to be at the cutting edge of pathology, that were onboard but were being stifled by the senior staff, such that they couldn't do a lot of things. In other words, they wanted to do certain research projects and they weren't allowed to do those because the senior staff man wasn't interested in doing it that way; he wanted his pet project done. And so the people had to do double time: doing what the chairman wanted, plus their research project. And even at that, a lot of these projects were stifled. So that we finally got the research committee changed to where the junior staff were able to submit protocols to the research committee. It had to still go through the chairman, but the chairman couldn't stop it. He could write an approval to it, or he could recommend disapproval and then state why it was disapproved, but he couldn't stop it. A lot of those projects then started being approved by the research committee, and the people completed them.

Q: It sounds very much a mirror image of many universities, or in any field, where Herr Professor at the top pretty well can dictate what his people do, no matter what, and they take on the coloration of Herr Professor. The research committee, had this always been in being?

DR. KARNEI: It had been, but it was more of a rubber stamp, and it was mainly chaired by the senior people. And we changed the makeup of that committee.

Q: This was in the eighties.

DR. KARNEI: Right.

Q: You left the AFIP and went to Bethesda, where you were for about eight years. Were you getting any emanations from the AFIP at that time of problems? Morrissey left in disgust. Colonel James Hansen, who got into a problem over the relations with the predecessor to the...

DR. KARNEI: The American Registry of Pathology.

Q: Did you get any emanations from this?

DR. KARNEI: I knew there were problems, but I didn't get into the politics of the place. I stayed basically on a professional level whereby I would bring in cases to the pathologists. I was hearing that these things were going on, but I didn't get involved in any of that. I wasn't really that interested in polotics or administration, either. I had a couple of surgeons general ask me to take the administrative route, which would eventually lead to admiral, and I turned them down. I said I was very happy in doing what I was doing, which was, I thought, a good quality of anatomic pathology, and teaching pathology residents who were really service oriented. I was having fun.

Q: How did you get here? You came in 1980 as deputy director.

DR. KARNEI: I'm not quite sure who did the deed to me. I had been head of anatomic pathology at NNMC there for eight years, and they felt that I could do a much better job for the Navy in a more "exalted" position, I guess you could call it that. And they were basically offering me three jobs, which were to be head of the laboratories at Bethesda; to be head of the laboratories at Portsmouth, at Norfolk; or to be Deputy Director at the AFIP. But I could no longer remain head of anatomic pathology, that was not one of the choices. I had to make a choice between those three. And, to tell the truth, I was not quite sure which job to take. The job at Bethesda also entailed being the surgeon general's consultant, which was, as far as I was concerned, almost a full time job, keeping track of all Navy pathology. I was already putting in ten-, eleven-hour days at the hospital and figured I really didn't need any more, because I would probably want to keep my hands in anatomic pathology.

So I came over to the AFIP and talked to Capt. Elgin Cowart, who was the Director at that time and who was going to be leaving, and Col. Ray Cowan, who was going to be the next Director and who was in the Air Force, and the Army Deputy Director, Col. Stansifer, who also wound up leaving and then Col. Tom Zuck came in as the Army Deputy Director. And I was basically told that I would have half of my time to do with as I wanted, that the AFIP job as a deputy only required half time.

I should have dug a little deeper to find out how they were able to do what they were doing, because I subsequently found out how they did it on half time--they weren't doing anything, or very little, because basically the Institute was running, I guess you

might say, by itself, with the chairmen not responding to the Director at all. Except that when they didn't get something, then they blamed the Director for not getting it for them.

And, of course, the rumblings that I had heard. I mean, a lot of the junior staff cornered me, saying, you know, why don't you come over and see if you can't change some things over here to make it a better place.

I did like the Institute. I mean, I had very good relationships during my residency and then when I did my fellowship here, that I said, all right, why not? You know, if I have this time to do my own thing, then I would be able to continue working with the medical school, which I was doing at that time, the tri-service Uniformed Services University of Health Sciences. I was professor of pathology there and at that time running three of the five laboratory sessions with the staff I had at the Navy, and gave a lot of lectures and this sort of thing in the department. So I figured, all right, I would not be able to do that if I took one of the other two jobs. This would also allow me to keep working with the residents at Navy. So I took the AFIP job.

And after being here for a couple of weeks, Colonel Zuck and I went behind closed doors one day and said, you know, things have got to change. And that sort of shot the other half of my time.

Q: Well, now, just to get sort of the wiring diagram correct, Ray Cowan was the director.

DR. KARNEI: Right.

Q: And you had an Army and a Navy...

DR. KARNEI: Deputy Directors, right.

Q: Two Deputy Directors.

DR. KARNEI: Right.

Q: And so these were the two Deputy Directors sitting down there and saying... Everybody, when he arrives at a place, new, and is going to be in a position of executive authority, usually sets up a certain agenda of things that he sees need to be done. What was your agenda, after you talked and all?

DR. KARNEI: I think part of it came from the fact of going around and talking to all the chairmen and finding out where they were coming from. And this problem with the turnaround time on consultation cases bothered me. And research was not a high-priority item. I guess to some extent it was, but it wasn't involving the junior staff as much. Prior to my reassignment, I spent almost two months coming in here, talking to people. Therefore, when I came over, my agenda was to improve the turnaround time, such that

we would be more responsive to the contributors. And that we needed to go back to the forefront of pathology; we needed to be at the cutting edge rather than the following edge of pathology. And that we needed to bring along the junior staff, and bring in some new junior staff.

Another thing that had happened in the interim was that the three services started using the AFIP as a dumping ground. When they had a pathologist at a medical facility who was not working out the way they wanted him to, they would dump him at the AFIP.

Q: This is the common plight of any organization which is outside of the general command structure.

DR. KARNEI: And we had a lot of losers here. This was also a time when the Berry Plan was dying.

Q: You might explain what the Berry Plan was.

DR. KARNEI: Okay, well, the draft was in at that time.

Q: Up through the Vietnam War.

DR. KARNEI: Right. And doctors were obligated to two years of draft time in the military. The Berry Plan allowed pathologists and other specialists to finish their residency and then come into the military following their training. So that we would get people in, in that program, that had trained at all of the big places in the country--at Michigan, at Harvard, at Duke and so forth, all the big places they were training residents--and everybody was required to do two years.

But then that died as the draft ended, and the military was really hard up for pathologists. Well, they were hard up for all doctors, but they were really hard up for pathologists. The salaries for pathologists had escalated during that time, so everybody was getting out. And the Army, especially, brought in FMGs (foreign medical graduates) and really didn't check them out as well as they should have. I mean, they really brought in some losers, and a lot of those got dumped here at the AFIP.

So Tom Zuck started getting rid of the Army people, and I worked on getting rid of a few Navy. The Navy was still being very selective of who they were bringing in. They brought in very few FMGs and they had to demonstrate that they had the capability to be in. The Air Force was sort of in between; they had some real losers, and a lot of them were here, and we sort of pushed the Air Force director to get rid of some of those people. And then we started attracting some good people to come into the military.

Q: Did you run into resistance? The Armed Services, I'm speaking institutionally, if they find a nice place to put people off to one side, and all of a sudden they get them back in their lap, they're not too happy.

DR. KARNEI: Well, what we did with most of these people was to get them out of the military. I would give the bad ones very bad evaluations, and that was all that the Navy would need to get rid of those individuals. Some of the people, especially among the Navy people, were above-average pathologists, but just were not research oriented and would work very well in our community hospitals or even in some of our teaching centers, but were not really interested in aggrandizing the AFIP by writing papers and this sort of thing. So those we sent back into the field. Number one, we got rid of the real bad apples by getting them out of the military. And the second group that were not AFIP material, we sent back into the field usually at an agreeable site that they wanted to go to.. And the other ones, who were AFIP material, we retained here.

And then we started bringing in people. Direct accession. I was able during that time to double the number of Navy pathology billets at the Institute. When I came here, we had ten billets; by the time I left, we had twenty-one.

Q: How did you accomplish this?

DR. KARNEI: Well, we basically went through a manpower survey that the Army has to do every now and then on their places. This was back in about '82 or '83, something like that. We got the Air Force and Navy to agree to a program that it should be done on a fair-share agreement, depending on the size of the medical departments. And whatever percentage that came out to, that service would then have to cough up those authorizations. And I think to some extent they were probably under the impression that they probably would not end up having to come up with any more billets. That didn't work out that way. When the manpower people got through, based on the workload that was here at the Institute, we needed more manpower to accomplish the job then that was here.

The number of people had steadily decreased from when I was here in '70 to '72 till when I came back in '80, and the workload was going up. One thing we ran into was, in the interim, civilian medicine had gone into quality control and quality assurance aspects and second opinions on pathology material, and so a lot of people were sending in a lot of cases to the Institute, such that the workload started going up. When I was here before, I think the workload was somewhere in the neighborhood of around 45,000 cases annually. When I came back, we were pushing 60,000. And the manpower to do that had gone down instead of going up. So we ended up basically with more requirements for manpower.

The Navy and the Air Force both work on a system whereby if you have a recognized requirement, then that requirement has to be filled. The Army doesn't do it that way; they have recognized requirements and they have authorizations, and they don't necessarily have to coincide. But I was able to convince the Powers That Be at Navy that we needed to have a greater presence here, and I was able to accomplish that with the Surgeons General that were present. Vice Admiral Lou Seaton was the Navy Surgeon General at the time, and I convinced him that we needed to have these additional

authorizations that had been approved by this manpower survey. He finally signed off on it, and I finally got them onboard. I had to do it by direct accession. In other words, I went out and found the pathologists and brought them into the Navy, assigned to the AFIP. They gave me the authority that if I found them, I could keep them. And so I went out and found them, and I kept them.

Q: Did you have scouts out there?
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DR. KARNEI: Well, yes, I had developed quite a decent network when I was at the Naval Hospital. As part of a program, every Thursday morning we had a guest lecturer that came in. And I brought in the top people in pathology, Dr. Scully from Mass. General and Harvard, and Dr. Meissner from the Harvard system, Dr. Bernie Ackerman, Dr. Wally Clark, etc.. These people knew I was wanting to bring in good people into the Institute, and they would give us names.

I would contact them and infrom them if they came into the Navy they would be assigned at the AFIP, and would they let me know which department they wanted to be assigned. I would try to match them up if at all possible. Therefore, before they came into the military they knew to which department they were going to be assigned. Even though there was nothing in the system that said it could be done that way. I mean, I could have just assigned them to any department I wanted to after they arrived, but I figured that was not going to help me; I'd shoot myself in the foot in the process, you might say.

So we basically started bringing people in. Dr. Zuck started working from the Army side, and Dr. Cowan from the Air Force side. And we cleaned house, and then we started backfilling with good quality people.

A lot of these people, however, were aggressive young people, which some of the senior staff didn't know quite how to handle, because they didn't click their heels and salute.

Q: It's a new world. More fun, but different.

DR. KARNEI: That's right. And this caused a lot of problems with the senior staff.

Q: Did you find yourself acting as sort of an intermediary, sort of explaining to the senior staff that it's a different world and all, and explaining to the younger people that maybe a mild click of the heels from time, this type of thing?

DR. KARNEI: Yes, yes, I think the thing is that both of them needed to change to some extent. I think the senior staff slowly became aware of the fact that change was occurring and that the old Herr Professor theory was out the door, it was disappearing. I don't think they'll want to admit it, but I think things are better at the Institute now because of the change that has occurred. I think we are back, to some extent, at the cutting edge in a lot of the areas of pathology. We're not there all the way, but if you really believe in total quality management or continuous quality improvement, we're never going to get there.

We're always going to try to do better.

Q: What about dealing with the cases that were sent in? You wanted to get them out and maybe to do a certain amount of weeding to make sure that you weren't getting all the second-opinion stuff, which to a certain extent is superfluous work. It's an insurance gimmick, almost.

DR. KARNEI: Well, what we ended up doing is, of course, computerizing more, upgrading the computers, going to the Hewlett-Packard microprocessors and really developing real fast changes in that area. When I first came here, as I said, a lot of cases would take three weeks to get through Accessions before they got to the departments. We basically confiscated some space, changed it and put the Accessions area in that space, and also changed the individual who was in charge of Accessions at the time. In other words, we put a new manager in that area.

One of the things we also were doing during this time is that we were going through a construction project. I think there were maybe three exhaust hoods in the building that met OSHA requirements in regards to airflow, that could be used with any of the chemicals we were using in the building. So we got a special minor construction project out of the Army to basically upgrade the heating, ventilation, and air conditioning system. Which caused a lot of upheaval. This was in the '83, '84 timeframe. We took basically one-third of the people in the Institute and put them in different places--out at Forest Glen, and also into trailers in the back of the building--and crunched some people together, and basically opened up about a third of the building to the contractor to get in and upgrade the ventilation system. A lot of that project fell on me, as I had an interest in construction because of being brought up in the construction business. I learned more about HVAC systems than I ever wanted to know.

Q: What systems?

DR. KARNEI: HVAC, that's heating, ventilation, and air conditioning; that's where HVAC comes from.

So, anyway, we got that project finished, during which time we then renovated certain spaces as we went through the project, and one of those was Accessions. And with the new computer and a new manager in that area, over ninety-five percent of the cases that came in that morning mail was in the departments that afternoon, and the afternoon mail was in the departments the next morning. Sometimes we had to go out to a warehouse to get the previous slides, and that would hold up the case a little bit before the case could be sent to the department. If the previous material was here in the building, then they got the case the same day. So that changed things.

We then put computers into all the departments, word processing equipment basically, such that they weren't having to totally redo the consultation letters.

Q: I imagine it would be very difficult to get experienced typists who knew the language.

DR. KARNEI: Oh, it was. And, of course, the OPM at that time was working on trying to keep the grade level as low as it could. They even had the impression that when the word processing equipment came out, that they wouldn't have to have as high a quality secretary anymore, and they wanted to keep the grades even lower, because "the machine was going to do the work for them." Some of these bureaucrats, you wonder where their brain cells are, if they have any.

Q: Sounds like a field for the pathologists.

DR. KARNEI: Right. Part of the job of the deputy director was to review all the letters that went out of here. And they were pathetic. I mean, there was so much Witeout, there were misspellings, it was atrocious, the letters that were going out of here. With the word processing equipment, of course, the quality of the letters improved narkedly. Some of the secretaries caught on to using word processing equipment very easily (a lot of them were using them in their moonlighting jobs, etc.). However, there were other secretaries who knew how to put the letter in, but they didn't know how to go in and correct it; they would just basically retype the letter again and make new mistakes. So we ended up having to get some in-house training so that the people would know how to handle the word processing equipment.

Then, I wrote the contributors askng them to work with us and, put this also in the AFIP letter, to not send us their quality control or quality assurance type cases, but send us the diagnostic cases. The response from some contributors was very good, from others it was not. They basically said that we were their servants, that their taxes were paying our salaries. It was sort of surprising that a lot of the people didn't know that we also paid taxes. They thought that the government check was without having to pay any taxes...I mean, it was unbelievable. But we slowly worked with some of them. Some of the contributors just wouldn't work with us.

Q: Did you put it in File 13 from some of the contributors type thing, put it off to one side?

DR. KARNEI: Well, the cases, we never did, because we always considered there was a patient at the end of a case. What we ended up finally doing was, with the help of the Scientific Advisory Board of the AFIP, which is made up of well-known people in the field of pathology and other fields...

Q: And outside the government.

DR. KARNEI: Outside the government. They're all civilians. Now on that Board are also representatives from the Army, Navy, and Air Force Surgeons' General Office that sit during those meetings, and they have an equal vote with the rest, but they're definitely

outnumbered. I think the total composition is about twenty people on the Scientific Advisory Board, and so three votes ain't going to count very much. They agreed that something needed to be done with these people. Dome of them I would finally just write a letter and say we would no longer accept cases from them. And that finally got some of their attention, that we weren't fooling around any more.

That still did not cause the desired effect of getting the number of cases down. And finally we convinced the Board of Governors that we should go to charging. If you look at the 1976 law that reestablished the AFIP as doing work for both the military and the civilian system, it states that we are to work in collaboration with the American Registry of Pathology in the area of consultation, education, and research.

In the area of education, we were cosponsoring courses with them, and we were charging the civilians more than we were charging the military, as a cooperative venture. The AFIP's contribution basically made up the difference that the military people weren't paying, but the civilians were paying a full fee for attending our courses.

In the area of research, we had gotten them to start using some of their "profits" to support research as a seed grant. You know, ten, fifteen thousand to start off our research projects, such that hopefully as the project went along they could then go out and get money somewhere else, from NIH or some other research funding unit out there. Therefore we were in cooperative ventures in the research arena. They were also starting to pay for certain research assistants to come in here as fellows to work in the various departments. The American Registry of Pathology was doing this.

So, looking at the law, it said we could do it in all three areas, so why couldn't we charge the civilians for consultations? And talking to a lot of the contributors out there, some said, we don't know why you haven't charged all this time, and if it would help the turnaround time... I mean, we had really worked on getting the turnaround time improved, and we had significantly improved it, but still we had a large number of cases coming in. And if that would improve the turnaround time, by getting rid of some of these other kinds of cases, they were all for it--if we kept our rate at a reasonable level. We picked a number that was sort of in between what a lot of people were charging. That caused a lot of the routine stuff to drop by the wayside and allowed the staff to start turning around cases more expeditiously.

Additionally, we made a rule that the contributor had to be called within three working days in regard to either a preliminary diagnosis or a final diagnosis on a case, depending on whether...

Q: By telephone?

DR. KARNEI: By telephone. Any telephone or TWIX case, we had to call. We then started using FAX machines for the military, and sending all of our cconsultation reports back by FAX to the military, and then we made it available to the civilians also. Of course, for a fee, through the American Registry of Pathology.

We started with the GYN-Breast Department, with Dr. Norris, which was one of the departments having a lot of routine type cases being sent in to him, and he wanted to

cut down on a number of these types of cases. It was one of the departments that had a quick turnaround time anyway, such that it would not really affect him as much as other departments which didn't have that fast turnaround time. So we started out in his department, charging. This had the desired effect; it cut down on a lot of routine type cases. And the staff now is able to spend more time in research and educational endeavors that they didn't have before because of the number of cases. The number of cases, I think, has dropped somewhere around 45,000 annually.

I always thought that if we kept the staff level, which we weren't able to do because of the cutbacks that occurred, about 50,000 was an ideal number of cases that should come into the Institute.

Before I retired, I got my signout privileges back, down in the GYN-Breast Department, and looking at the cases that were coming in, even though the number of cases in the department at that time had dropped significantly, and it's now come back up again, the quality of the cases was better. In other words, these were the cases that should be sent to a consultant because there was a difficulty in the diagnosis of the case. Some are still very simple or easy for the staff to handle, because they've seen 50 cases like it, whereas the pathologist out there may have seen one or two, or only read about it, or something like that. So they're still able to handle a lot of cases very easily.

And then gradually we've added every department to this system.

Q: In a way, the lifeblood of the Institute is getting a lot of cases sent to it to build up the medical archives so that you have these specimens to look at. Was there a concern that if you started charging, you might be basically amputating your arm or something?

DR. KARNEI: Oh, that was a real concern of the senior staff, that we were going to kill the Institute by doing this. That was one concern we did have, but we also pointed out that we were getting a lot of junk cases that we didn't want in the system. We also stated that if the contributor knew what the case was and didn't really want our answer, but it was a good, rare teaching case and he wanted to send it to the Institute so that it could be used in research and educational endeavors, we wouldn't charge for that case. In other words, there was a category for that, such that the contributor could call Dr. Norris or Dr. Mostofi or Dr. Sweet or whoever here at the Institute and say I've got this case, I know what it is, but I think it would be good for you to go ahead and use in your research endeavor, would you accept it at no charge? And they would say yes. So there is that proviso for unusual type cases to be sent to the Institute.

And that has been accepted very well, I think, by the contributors out there, that they do have that opportunity to keep sending us unusual cases. And sometimes they will even call up...I understand this happens in some departments, in that it's a slight variation on the entity, and they are fairly certain that's what it is, and they want to send that one in also, and some departments are not charging for that, either. So that some of the authority in regards to not charging is left with the chairmen of the various departments.

Q: We've talked now about the caseloads, the quality of the younger pathologists, what

about the research and the paper production?

DR. KARNEI: Okay, well, I went back and looked at some things and made up some charts to show how the Institute had changed. In 1984, there were 75 publications from the Institute, which I thought was a little ridiculous considering the number of staff that we had here at the Institute. By 1988, we had improved that to 375 publications. And we've pretty much kept somewhere between 350 and 375 publications for the last four years. There are some people who have said, well, we're counting everything. But I did the same thing when I counted back in '84. I counted all of the publications that they had put into the annual report. We divided the publications into various categories, those that were put into peer review journals as clinical pathologic type correlations. etc..

We also started pushing what I'd like to refer to as applied basic research. We weren't looking at the enzyme system of a cockroach or anything like that basic research, but doing research in immunopathology, molecular biology, image analysis and flow cell cytometry. In other words, high-tech pathology. These techinques need to be refined by correlation with pathology. For example what I would like to refer to as applied basic research--the work Dr. Virmani is doing in regards to coronary atherosclerosis, utilizing a blood substitute to decrease the size of a myocardial infarct, etc.. In other words, they have a human application. Even though some of it's done on animals or is done in laboratory settings, it has a human application in some form or another down the road. It's not done as just basic research.

Like when I was going to Rice, I asked one of the graduate students, who was doing some work on the cockroach at the time (I think that's why I said the cockroach), "Well, what application does this have to do with humans?"

And he said, "You don't understand. This is basic research. It may or may not have human application."

That kind of research we're not doing here at the Institute. All of it has some type of correlation to human pathology. Even in the Veterinary Pathology Department, in the area of comparative pathology, the review of autopsies of the military guard dogs to try to improve their lot in life, examination of the animals after the Valdez oil spill in Alaska, the death of a large number of dolphins, the desert tortise in the southwest, etc..

Also, as I say, the research committee was changed, and it was now made up from various strata within the Institute, and encouraged the young people to start getting into some of these new cutting-edge aspects of pathology. I remember we had around 74 research projects listed in '84, and a lot of these were we're going to study carcinoma of some organ, and then they would hang on different research projects onto that. So we changed all of that in, I guess, '86 or thereabouts, such that we were no longer going to allow that. Each research project had to be specifically outlined, subject to funding requirments, how long it was going to take to do the project, and when they anticipated that the project would be ended, so there was a starting and an ending time to each project. For the last three years, I guess, we've been hovering a little bit over 200 research projects annually. These cover everything from clinical pathologic correlations to applied basic research, and a combination of the two. For example, looking at our tumor base

here and using some of the immunopathology reagents.

For instance, B72.3 is a marker that was supposed to be for adenocarcinoma, and it was thought that it was going to be the answer for breast cancer. Dr. Tavasoli and the group in Immunopathology were able to show that every Apocrine metaplasia, which is a benign process in the breast, was staining positively with B72.3.

AFIP has got so many examples of everything here that you can apply these modalities to, that you can show cross linkage and cross reactions etc.. Therefore all different types of research are now going on in the Institute.

There is more outside funding coming in. The people are applying and being approved for research grants from the Army's R&D Command, from NIH, and from other extramural granting agencies. Even some drug companies are starting to sponsor some research here within the Institute.

With the Valdez oil spill that occurred up in Alaska, there were about, I think, 15 different organizations, or something like that, up there, each one stating they were in control, and nothing was getting done. Our veterinary pathologist went up there and started looking at the animals. And since we didn't want to own anything, we were just up there to see what could be done for the benefit of the animals, a lot of these organizations learned a little bit more about the AFIP--that we are tri-service, that we really don't own anything, but we have a large repository that's available for anybody to come in and do research on, as long as they follow certain procedures. They said, hey, this is sort of a neutral place to send all this material, and we can all take a look at it. And so a lot of that material was sent back to the AFIP. And that's some of what we're doing now in the area of environmental pathology and in toxicologic pathology.

Also, we started encouraging the departments to work with people at other research centers. A lot of them would have, for instance, a special immunostain, a monoclonal antibody, but they didn't have 50 or 100 cases to test it on, or whatever it is, to make it statistically significant, which the AFIP did.

Q: Well, it's one thing to say we like research, but cases are coming in, you're cutting down, how do you develop a research environment? Also, it sounds like you'd need a fairly major outreach program, one, to get money, and, two, to make these contacts and other things. Did this add to the administrative load?

DR. KARNEI: Well, a lot of the outreach in regards to getting the money, that was dumped on the departments. We would try to facilitate... When I would go to certain meetings and so forth, I would find out things that people were working on, and would come back and say to a department, Hey, maybe you ought to look into this and contact so and so. And if they didn't follow up within a certain period of time, then I would talk to somebody up the chain and say, Hey, you know, money's available to do this kind of work, and I think that is something that the AFIP should be involved in, because it would link us a little stronger. And especially when I went to the Armed Forces Epidemiological Board, and the people from the Army, Navy, and Air Force would be reporting on what they were doing, and some of the conclusions they were coming to

were ludicrous because there was no pathology basis to it--stuff on Agent Orange and all this sort of thing.

Q: Agent Orange being a defoliant used during the Vietnam War.

DR. KARNEI: Right. The VA was undergoing some changes and they sent a team out here. We allowed them to come into the place because we have a working relationship with the Department of Veterans' Affairs. As a matter of fact, they pay for 23 people that work within the Institute. They needed some pathology review on this material, and our staff was able to do that. And we do it in a non-biased way, because we have no ax to grind with anybody out there, and that's why we're sort of seen as a neutral ground, but at a high-quality of work that's performed.

Q: Did you feel during your time both as a deputy and then as director the political pressure from Congress and all to either, one, what the hell are you doing, or from, say, the surgeon general, elsewhere? I mean, this was a very political world.

DR. KARNEI: Oh, yes, it's a very, very political world, both inside and outside the Institute. When it came time for me to become the director, there was actually a contingent of about a dozen chairmen that had a meeting with Dr. Mayer, who was then the Assistant Secretary of Defense for Health Affairs, to make certain that I would not be made the next director.

Q: Why?

DR. KARNEI: Well, basically they knew that the program that was in was eliminating their fiefdoms. In other words, they were going to have to start working together, they needed to encourage the development of younger people. And this sort of thing was going to continue on. If anything, it was going to probably get more intense. I was referred to as a micromanaging dictator (that was the nice name that they called me). But that needed to be done.

In the interim, I think that we had responded to a lot of things that the Army, Navy, and Air Force wanted to have done. And we had developed good PR and support from the three services. The establishment of a medical examiner system went ahead and really helped out in regards to responding to things like the *Iowa*, the battleship.

Q: This was an explosion in a 16-inch gun turret, and there was much controversy of what caused that.

DR. KARNEI: That's right. And the crash that occurred up in Gander, Newfoundland, we were involved with all of the autopsies associated with that aircraft accident. And other mass casualties, so that the Forensic Pathology Department, as it was known at that time, responded to this, especially the Aerospace Pathology division of that unit. And

then there was a big push, oh, about in the '85 timeframe, by an organization called CAMI, the Citizens Against Military Injustice. They accusing the military of covering up the cause of a lot of the deaths of the active-duty military that were occurring onboard ships and in various places around the world. And, based on that, they were going to get a bill through Congress that was really going to almost stifle the AFIP as to how we did our work. We were going to have a lot of oversight from civilian agencies or civilian groups coming in, that they (CAMI) were going to name, and they were going to tell us how we were going to run the Institute.

Part of our response to that was basically the Medical Examiner System was set up, whereby now we basically respond to all military deaths for all three services, worldwide. Even the onesies and twosies. I mean, it's no longer just the large, mass-casualty type ones, but even the single ones. The services are to notify us, and we either help the local pathologist to work through the case, or we will send a team out to do that autopsy. We've even established regional medical examiners and even associate medical examiners, people who have an interest in forensic pathology but are not forensically boarded. But we can guide them through a forensic type autopsy, based on the circumstances, telling them what to look for, what kind of procedures to do, what photographs and what blood studies to do, and all this sort of thing. So that we are involved basically in every suicide, homicide, and accidental death that occurs on an active-duty person out there. And even in some cases where a civilian is stationed with the military, or some dependents on base. And even some dependents who are killed off-base, we are sometimes drawn into the case to help work through it or to review it, such that we can help them out. We started working on the Medical Examiner System in 1985 but didn't get approval until 1987.

Q: Was this a matter of your seeing the handwriting on the wall and responding with how you felt it should be, or did it come from outside?

DR. KARNEI: No, I think this was our response to seeing what was going on out there, and we figured out, well, this was the best way to respond to that concern. And we finally got the approval of the Board of Governors and then got approval of the Secretary of Defense to implement that system. Actually, we implemented the system almost the same day that we wrote the implementing law for it, which took almost a year and a half to get through the chain. But we were doing what we had written up, even though it was modified in various ways as it went through the various chains of command. But basically we pretty much implemented what we wanted to do with the medical examiner system the day we submitted our proposed DOD regulations for that.

Q: Was there concern about this system from various military commands overseas?

DR. KARNEI: Oh, not only overseas, but within the States, especially from the Air Force. They did not want us interfering with the command prerogative of the commanding officer at various bases and so forth.

One of the provisos of the medical examiner system is that if there is a death due to certain circumstances (and there is an outline as to which categories there are in regards to death), that if the commanding officer will not order an autopsy, the medical examiner here at the Institute has the authority to order one if the circumstances demand that an autopsy be performed in that case. Such that he can, in a true sense, overrule the local commanding officer in getting that accomplished.

And the Air Force had a real problem with that. The Navy to some extend did. The Army's viewpoint was: Thank you, I don't have to make a decision! To some extent a lot of the Navy finally agreed to that also. If there were enough circumstances surrounding the death that they could only be answered by doing an autopsy, then, by damn, an autopsy should go ahead and be done. That took a lot of work on my part with the Navy Surgeon General's office, but we finally got that through there and they signed off on the regulations. But our biggest stumbling block was the Air Force.

Q: What was the problem? Why would the Air Force object?

DR. KARNEI: They did not want any encroachment upon the local commanding officer. Because, see, this even exceeds the medical corps; this applies also to the line, and the line, I think, in all three services do not want to have anybody interfering with their local jurisdiction.

Q: The line you're talking about, somebody who's a non-medical person, either an infantry officer or a flying officer or something.

DR. KARNEI: A captain of a battleship or whatever it is, such that they just don't like anybody messing around with their territory.

So, anyway, it finally was approved, and it's implemented, and I think it's working very well, we're responding. Out of that now, of course, we're going into DNA profiling and establishing a registry here where we will have a sample on every military person, here at the Institute, which we can use for identification purposes. And once the technology gets to be very cost effective, we will probably go in and do a DNA profile on everyone that's in the system, such that when we do have a death in which we cannot readily identify the remains, we can do a profile on that tissue and then match it up with our database here.

Q: Is this causing concern from the civil rights people? Because as you move into the DNA, you're beginning to look at, among other things, genetic defects, things that might not show up, so that they might say, well, let's dismiss this person or that or something like that.

DR. KARNEI: Well, there are some concerns in that area, but that's not what we're in it for. I mean, if the lawyers and all the other people want to argue about that aspect of it, we have left it to them. We're using it totally for identification purposes. One concern

that the lawyers have is that if we have this database here, and if one of the active-duty military is accused of rape or murder or something like that, and they have a body-fluid specimen that they would like to test, should they have access to our database or to our repository to go ahead and do that. And we've said that's up to the lawyers. If they tell us to make it available, we make it available. If they say no, we don't. We let the judicial system fight that out. Personally, I think it should be made available. I think that we need to get the lawyers out of as much of this as we can. I think that even though that's in a judicial chain at that time, I think it's for the benefit of the victim that we do everything that we can to, to some extent, diffuse the judicial system. If we can definitely prove that that individual did the rape or was at the scene, then that sure eliminates a lot of innuendos that some lawyers would like to use in a courtroom to sway the jury one way or the other, depending on how successful they are in that sort of thing.

Q: Well, speaking of DNA and this period, really, from '80 to '91, were there any major technological changes that you saw come in, and, if so, how were they received?

DR. KARNEI: Yes, there were a lot of new things that we went into. I'm trying to think back, when did we get Dr. O'Leary to come here. I think that was also in the mid-eighties, '85, '86, something like that, in which he brought in molecular biology and expanded the immunopathology here even more. Also, there were some junior staff in some other departments, like Dr. Becker, who had more of an interest in image analysis and morphometry.

And from that now we're going into telepathology, where we're hopefully going to be able to serve as consultant to military pathologists in outlying areas, over the telephone lines basically sending us pictures of the pathologic process, and our staff being able to look at it and either being able to make a diagnosis on that picture, or to suggest additional studies that could be done locally, or send the case in, we've got to look at the whole case. So that we can start using a system basically that the radiologists have been using for years, in which they transmit X-ray pictures over the telephone lines and have a radiologist somewhere else interpert them. Pathology is a little more difficult, because we like to look at several fields and get a big picture before we hone in on small pictures, but it's being worked on. The TV monitors are getting better in regards to resolution. And I think when the high-density ones come out that we'll really be at a point whereby we'll be able to do a very good job at it. But even at that, it's just a matter now of pathologists starting to train themselves to look at a TV screen as opposed to looking through the microscope. As the fiber optics get better, the transmissions will be less garbled and we'll be a whole lot further along that way.

Molecular biology, that's where the future of pathology is going to be in medicine, that we can find out the molecular basis for a lot of these diseases. Genetic coding, all of that is part of it, such that I think that's a very exciting area that's going to be the new frontier of medicine.

Q: Do you feel that the AFIP is remaining close the edge of these things?

DR. KARNEI: I think so. I think with the networking that they are doing, working with other people in other parts of the country, I think they're able to maintain. They put a course on here every year in molecular biology, and everybody has to pay to come to the course, including the invited speakers, because they are able to present their research at this meeting. So that it's really sort of a melding or a consensus that comes together and takes a look. And they're not bashful about shooting down the other person's research. So it's a real good aspect of moving forward in this area of pathology.

The use of immunopathology. When we first started, we were working on maybe half a dozen to a dozen antibodies. Now, I think they're running something like 50 different antibodies through the system. They're automating a lot of that now as new machinery is coming onboard for that.

The histology labs, even though they're doing a lot of the same things, have been changed whereby they're responding much more quickly. Most of them respond the same day or the next day on the routine type materials, and some of the special stains are back within a day or two. Some of them take a little longer because they don't have enough to do, but maybe twice a week or something like that. So that aspect of the laboratory is working better, which allows the consultations to be handled better.

In the past, people would have to handle a case two and three times, based on what needed to be done. And, of course, you have to look at it each time if there has been significant delay between each piece coming in. And now, with the pieces coming in within a couple days, they get rid of the cases much faster, which then allows them to get more involved with their research projects.

And the number of courses that we now give has increased. Back in '85 or '86, we were putting on 32 courses, I think, per year. Now, we're up, I think, to 55 courses per year. And we're starting to present them in different parts of the country; they're no longer going to be given all here in the Washington, D.C. area. And we've expanded into a whole lot of different areas of pathology and related subjects that the clientele out there wanted us to present. So that has markedly expanded, and the number of people attending the courses has gone up slightly during that time. We're competing with the other people out there who want to put on courses. Despite this, the education program is really moving forward.

And I think one thing that's used more is our animal facility. Dr. Virmani is a big user of the animal facility. When I came here, it was basically a breeding farm. Very few people were using very few animals. But they had a full staff up there, and all they were doing was breeding mice and rabbits and rhesus monkeys, and nobody was using them. The only thing that was really being used extensively was the armadillos, at that time, for the leprosy project. We sometimes would have 150 armadillos in this place, but all the rest of it was barely used. So we made them basically transfer all the rhesus monkeys to other research facilities within the military, because we weren't using them here and they were too expensive to maintain, and we got rid of certain other species that basically weren't being used here in the Institute. Then Dr. Virmani started doing research work on heart disease, decreasing the size of the infarct with the synthetic materials she'd given to

dogs, and looking at using a laser to eliminate atherosclerotic plaques. Research on rabbits, because he found out in cocaine abusers there is an acceleration of the atherosclerotic process. People in their twenties were dying of myocardial infarcts from severe atherosclerosis due to the cocaine.

And now, with the environmental pathology and toxicologic pathology being expanded... And, of course, the drug program within the military has continued to expand, not only within the military, but now into other government agencies as we do the quality control and proficiency testing for all the civilian testing laboratories. These organizations now contract with the Department of Justice and the VA and all the other government agencies out there.

No, we're really, I think, enmeshed within the government system very strongly. And I've got good support now from the three services as we continue to do our job and keep them out of trouble, you might say, to some extent. Because we do work in a non-threatened type environment, in that we can be objective in what we're doing.

Q: Now that we're talking off-camera, what was the problem of the accreditation process?

DR. KARNEI: First of all, the building's ventilation system would not allow us to pass, number one, such that that project had to be accomplished, the heating, air conditioning, and ventilation project to bring the exhaust hoods up to speed and also...

Q: The hoods you're talking about, basically was that...

DR. KARNEI: The laboratory hoods, where you had chemicals and so forth that you don't want to have in the work environment. Also, the work environment had to be modified, and I think I also changed that in '87, when I made the building a no-smoking building, which I think a lot of people are happy for now. I think the work environment is much better since then, too.

And then, again, I was dealing with the senior staff at that time in that we're the AFIP, who can inspect us? We set the standards for everybody else. And I think they learned that they weren't doing everything that should be done in regards to making sure that the quality of the work was at the highest level possible. The equipment maintenance was not as good as it should be. The way that they did things were not always the same way, because they didn't have standard operating procedures written, the SOPs. And so I think all of that has changed. They weren't dating any of the chemicals that were there, and sometimes they worked and sometimes they didn't, and they didn't quite know why. And once we made them start putting labels on the reagents, they found that some of them were outdated and so that's why it didn't work. So I think that to get the college in here and to get the place inspected...

Q: The college being...

DR. KARNEI: College of American Pathologists (CAP), and their inspection and accreditation program. Also, we got the accrediting agency for the animal facility in here to inspect and accredit the animal facility, which is not very easy to do. For instance, the Walter Reed Army Institute of Research is not accredited, because they cannot get their facility up to the standards required. The Navy Medical Research Institute over at Bethesda cannot do it, either, because they cannot get their facility up to standards. So I think we're very lucky here to have both the animal facility and the laboratories within the place accredited.

Now the only laboratories that the college (CAP) will accredit are those that have a direct impact on patient care. But what I made mandatory throughout the Institute was that even those research laboratories that were not directly patient oriented and would not normally be inspected by the college would still have to meet the standards in regards to equipment maintenance, safety maintenance, and, as much as possible, to have standard operating procedures on the research that they were doing at the time. Of course, the research would change with time, and different projects would go in there, but during the time that that project was going on, they would have to have an SOP. And we set up an in-house inspection team that would go around and inspect all of the laboratories to make certain that people stayed up to snuff, you might say, in having everything ready when the inspectors from the college or from the accrediting agency for the animal facility came in.

So it was a real uphill battle, fighting, again, the barons, you might say.

Q: It could make them look bad if they didn't pass.

DR. KARNEI: That's right. One thing was the electron microscopes. When I came here, they were spending more time aligning the microscopes than they were actually looking at the specimens. They wanted new microscopes, but, again, they wanted the microscope assigned to them. And I said no, we would buy new microscopes, but they would be of general use. They could sign up for time on the EM scope, and if they could show that they were using it full time, then we might consider assigning them a little bit more time on that scope. But no one could do that once the new scopes were brought in, the Zeiss 109s. And we upgraded one Zeiss 10, then we brought in a new scanning EM scope. So we brought in a lot of new updated equipment over the years to make this a first-class place in regards to equipment and getting personnel in here that would do the job.

Q: How about the influence of other laboratories that were doing pathological work on order within the United States? Did you feel that you had to keep up or you would be superseded, or was it a sense of competition? How did you feel about the other labs?

DR. KARNEI: Well, the history of the AFIP, even back when it was the Army Medical Museum, was to be at the cutting edge. They were the forerunners of a lot of these places. The Institute had sort of become complacent, and, overall, it was following rather

than leading. And I think pride more than anything else made us want to be back at the cutting edge, to be accepted. Very few of our people were presenting at the national meetings. They were not invited to give talks at a lot of the other research places and so forth out there. And that's all been changed. The staff is putting on a lot of workshops at the major meetings now. They're invited to all the various places around the country, and even around the world, to give workshops and lectures and so forth.

That feeds on the ego, you might say, of the staff. I mean, they're not here because of the salary, I can tell you. They're here because of the repository that is here that they can do their research on, and then for that research to be recognized and be invited to present their findings at the national and international meetings, and to be invited to give talks at very prestigious universities and so forth. And that's what these people are really here for. I mean, as I say, it ain't the money.

Q: What about your feeling, in the decade plus a couple of years that you were here, about the Museum aspect?

DR. KARNEI: Well, of course, when it was down on the Mall, it was a world-center showplace. It's estimated as many as a million visitors a year went through it annually before it closed in the late sixties. And then it reopened out here when the south wing was added on. I think in '71 or '72 it reopened again.

Q: It opened and then shut for a while.

DR. KARNEI: Then it was closed down when the Uniformed Services University of Health Sciences started with their basic science program, and the anatomy lab was basically placed where the Museum is now down there. And so it was closed down again, and then it was reopened again in the late seventies. But it really never had an outreach program. It was sort of set up like a museum--a lot of stuff on shelves, but there wasn't anybody to tell you anything that was there.

When I first came here, Dr. White was in charge down there. He was an M.D., J.D. individual who had been in the Department of Legal Medicine, and he took over the Museum and started a little bit of an outreach program, in that he started having the Museum put on the high school tours and getting busloads of kids coming out. And he would, himself, give a talk prior to going into the Museum. But his staff was sort of complacent; they weren't really trying to look forward to moving forward with the place.

I then had a Navy enlisted person, a yeoman, who, during the time that he was assigned to the AFIP, finished his college degree and got a master's degree in business administration on the side. Once he did that, being a lieutenant j.g. was a little more than working in the Personnel Office as a yeoman. So I sent him down to the Museum, and a lot more things started happening there as far as a program, but it still wasn't going forward like it was supposed to.

We then decided to bring in a group of people to look at the Museum, people who were into medical history, like Dr. Joy from USUHS, and some other well-known people

from the Uter Museum and from other places. But basically they stated that the Museum had a very good potential, but significant changes had to be made.

About the same time, the DOD IG did a study. The Inspector General came out and looked at the AFIP in general as to how things were going. Out of that, we really made a lot of changes, too, and got a lot of clout from their findings in regards to how we were going to handle consultations, the research and education mission, and also the Museum. They also basically stated either do something with it or give it to the Smithsonian. However, no one ever asked the Smithsonian, because they didn't want it. They're not really into that type of exhibit.

Then Dr. White decided that he no longer wanted to be here at the Institute and wanted to leave. And one of our chairmen of one of the departments, Dr. Frank Johnson, was placed in charge of the Museum. And, again, it sort of coasted; it really wasn't moving forward.

We then started a search committee to bring somebody in that would really rejuvenate the Museum and bring it forth again, and appointed a selection committee, and went through several people who applied for the job.

As Deputy Director I was not supposed to influence the committee in regards to who was being proposed to be chosen; they were supposed to come up with their recommendation. I, however, reserved the right to interview all of the applicants, and basically told them what I thought should be done with the Museum, and also asked what their visions were of the Museum.

And it became very obvious to me that only one person's views and my views were the same, that we needed some significant changes to go ahead and do that, and that was Dr. Micozzi.

A lot of people at first were not quite sure if he was the right person. He was an individual who had done a pathology residency and had done a forensic path. residency. He had never taken his Boards, either one of them. And then he had gone to NIH as a chief investigator or clinical investigator, in which he was doing some research in various aspects of dealing with basically health-promotion type aspects--causes of breast cancer, atherosclerosis, and all this sort of thing.

It came through to me very clearly that he had an idea of what the Medical Museum should be doing in regards to an outreach program, that the exhibits had to be changed to tell a story rather than just having a bunch of things set on shelves and not saying anything.

I met with the committee and I told them that I had interviewed all the candidates and I had made a selection, and I hoped that they would make the same selection. Because otherwise I probably would have overruled them if they would have come up with a different individual. But they came to the same conclusion that I did.

And Marc has done an outstanding job of turning that Museum around. Basically got rid of all the deadwood that was in the Museum down there and brought in some people that have really turned that Museum around. It is really a vibrant, very intellectually oriented type museum now.

In the interim, Dr. McMeekin set up a blue ribbon panel, which was chaired by

Dr. Newman, who was the Undersecretary of Health for HHS at that time, and had a lot of top-name people on it. Dr. Koop was on that committee.

Q: Former surgeon general.

DR. KARNEI: Of the Public Health Service. Also on that committee was Dr. Narva, who was the Navy Rear Admiral who was a vice president of the Uniformed Services University of Health Sciences, and also Capitol Hill physician. As a matter of fact, he was just selected on Friday to be a member of the Board of Trustees of the Foundation. They basically came to a conclusion that we had to have a foundation; we had to get the Museum back down on the Mall, whereby we would get the visibility that a museum like this should really have, and that we needed to push health promotion, as opposed to a static museum. It had to be a vibrant, teaching-type place that needed to really move things forward.

Some of the exhibits were changed, but the major one was the AIDS exhibit that was built. That actually was dedicated by Dr. Koop when he gave the Ash Lecture, in '89, I think it was. Anyway, that really set the stage for exhibits that needed to be done there. They're now working on a drug-abuse exhibit. They're building exhibits for the Pentagon on decreasing smoking within the military. Such that the Museum is really moving forward.

Out of that blue ribbon panel, the recommendation was that we needed to change the name also, from the Armed Forces Medical Museum to something that would attract the civilian sector into it. And after much haggling with the Board of Governors, we came up with the "National Museum of Health and Medicine of the AFIP." We didn't really have any problems with some of the other medical museums, like the Uter Museum and so forth, since we wanted to remain in the Washington, D.C. area.

From that, the Foundation was formed, the National Museum of Health and Medicine Foundation, which has a Board of Trustees, of which I am now a member, and Dr. Koop is the chairman of that Board. And they are really moving forward.

And I think that now there is a good push to move the Museum back down on the Mall. The meeting on Friday, looks like everything pretty much has been crystallized, to the point that the Museum will be built on the east side of the Hubert Humphrey Building, which is the headquarters for the Health and Human Services. And it will be built in part of the grassy area to the east, plus going over part of the overhang of the building. It will be around 40,000 square feet of exhibit space. And it even looks like Senator Hatfield is ready to present a bill to Congress for Congress to come up with the fourteen million dollars to actually build the Museum, and that the Foundation will then have to come up with the money for the architectural design and the exhibits. And even thinking now that a lot of the companies may pay for the exhibits to be placed within the Museum, as long as they meet certain guidelines. And there's nothing wrong with the companies doing that. In fact, if they're going to do it, that's the way it's going to have to be done. We will continue to get support from the military and from HHS in regards to funding for the Museum, but also we're going to have to attract funding from the private

sector in order to keep it like the rest of the museums down there, a free museum that the people can come into.

And the big push of the exhibit portion is some historical, but the big thing is going to be health promotion, what you can do to keep from getting sick. I think all of medicine is going to have to change in that direction, too. We're too much oriented towards disease. We need to prevent the disease. And the government's got to get in the act, too. I mean, we've got to quit subsidizing the tobacco farmers while on the other hand saying smoking is bad for you. You know, we can't be schizophrenic here. We need to change that. So I think that that aspect of the Museum is really moving forward. And I'm glad to see that eventually it will be back down on the Mall and be able to teach the general public health.

Q: I think all of us will be delighted, because it is isolated here. Well, doctor, as a final question, looking back on your time with the AFIP, what gave you the greatest satisfaction?

DR. KARNEI: Boy, so many things that were done during this time. I think it all sort of commingles together to some extent, in that the AFIP needed to work together as an organization, and that we had to be responsive to the contributors out there, which had an impact on direct patient care, that that would also feed our educational and research mission by getting that good material in here.

And I think the staff now is more oriented towards the patient. I sort of had the feeling when I came here that the patient was some nonentity out there that was interfering with their academic desires. I mean, they wanted to do the research and teaching, but they really could have cared less whether the cases came in or not. And I think now that the number of cases is down and the quality of the cases is up, that they're a little bit more interested in dealing with the clinical side of medicine, with the clinicians and so forth. And we really encouraged the various departments to work with their clinical colleagues--the Ophthalmology Department work with the ophthalmologists; the orthopedic pathologists to deal with the orthopedic surgeons; the dermatopathologists with the dermatology group, and so forth along the lines, such that we all are working for the benefit of the patient. Because if we're not, there's no sense for us being here. I mean, either we are doing a job for both the military and the civilian patients out there, or there really is no need for the AFIP.

I think the fact is that the departments are working together more. They're sharing resources more now instead of developing fiefdoms, such that no one knew what the other one was doing, and they made certain that nobody else knew what they were doing. I think that has changed, that they're working together as a more cohesive unit. We're bringing along young talent a little bit more now.

As I say, it's all sort of intermixed, but I think the big thing is that they're working more as a cohesive unit, more at the forefront of pathology, and they're more patient oriented.

Q: As a final question, what was your role in the Kennedy autopsy?

DR. KARNEI: I was told again to make certain that that came in.

When I was a second-year resident at the Naval Hospital, Bethesda, I was the pathology resident on duty the day that Kennedy was assassinated.

Q: That would be November 22, 1963.

DR. KARNEI: Right. And, needless to say, I was a little nervous, to say the least, because just a few months before that I had done the autopsy on Estes Kefauver, and there were more admirals and generals present than I ever wanted to see in my life.

Q: He was the senator from Tennessee, but had been a candidate for vice president.

DR. KARNEI: Right. And so I was not looking forward to having to do an autopsy on the president. About 5:30, I was called in to the CO of the Naval Medical School. At that time, the pathology department was under the Naval Medical School, which had a different commanding officer than the hospital did, and so we responded to a different chain of command, you might say. And at that time I was informed that Dr. Humes and Dr. Boswell would be doing the autopsy (Dr. Humes was chief of laboratory service, and Dr. Boswell was chief of anatomic pathology) and that I would make certain that the autopsy suite would be secure. I would station the Marine guards and make certain that nobody got in there that wasn't supposed to be in there. That was modified even to the point where the surgeon general told me exactly who was going to be on the list to get in. And if you weren't on that list, you didn't get in. So I was in and out of the autopsy suite all night long during that evening, and took a lot of people up to see Mrs. Kennedy, and dealt with the press, and dealt with the commandant of the district, to make certain that the press didn't get back into the autopsy suite area, which they wanted to force their way in. I think without the Marine guards having their sidearms, they probably would have forced their way into the autopsy room. So that was a long evening, shall we say. They finally left the hospital, I think it was around four o'clock in the morning, at which time I had to secure an exit for Mrs. Kennedy to get down from the tower, which is where the presidential suite was at that time, back to the autopsy area so that she could leave with the body to the White House, where they went that evening.

So I had pretty well kept a low profile. There was a book that came out several years after that in which I was referred to as the "unnamed Navy lieutenant." That was nice, because everybody else that was in that autopsy suite room that night was named by name, and I was the unnamed lieutenant.

And then here in August I was called by a reporter who wanted to talk about the circumstances, and I did. And next thing I know, he's written a book, and I am now listed as Chapter Seven in *High Treason 2* by Livingstone, and I'm not too sure what to do with that now.

Q: Ah, well, pathologists can end up in peculiar circumstances.

DR. KARNEI: That's for sure.

Q: Well, thank you very much.

DR. KARNEI: Sure thing.

Q: Appreciate this.

DR. KARNEI: Good.